

FPOST DETECTOR

Safety Review

Akio Ogawa

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Scintillator hodoscope with SiPM readout just like existing FMS Preshower detector



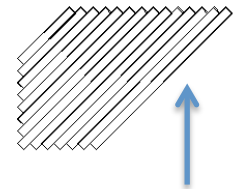
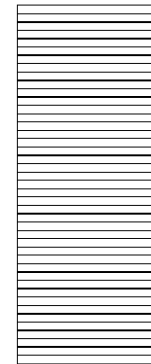
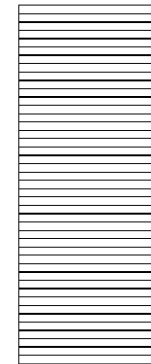
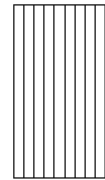
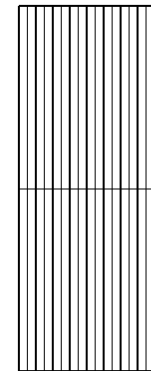
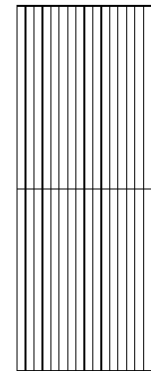
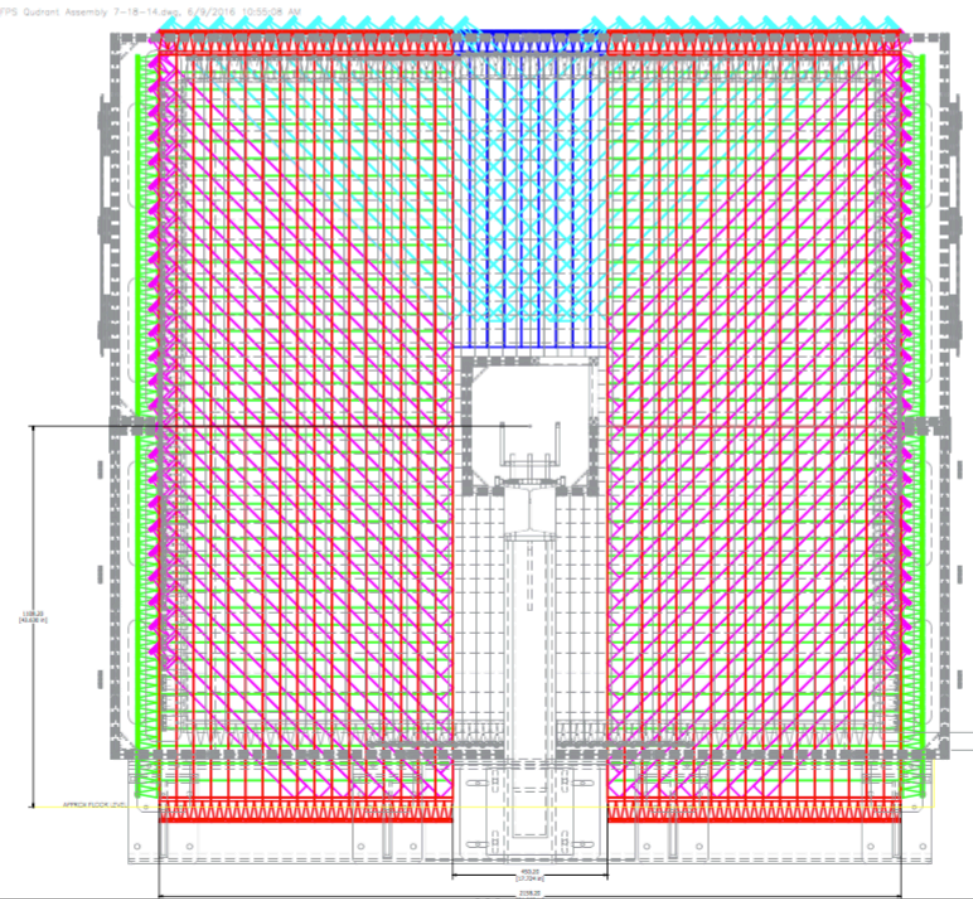
Detector geometry

6 layers hanged to 5 rails

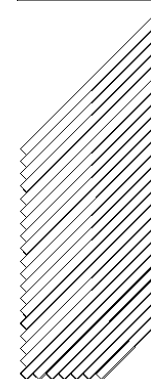
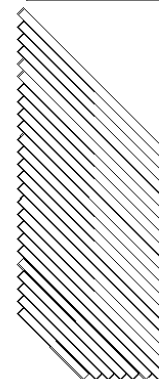
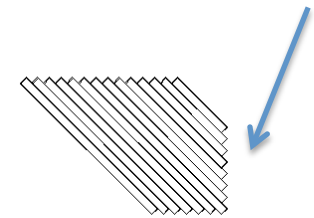
large ones split to top and bottom ½ = 15 plates

~80 lb for a large plate

Total 241ch



These 2 will be bolted together

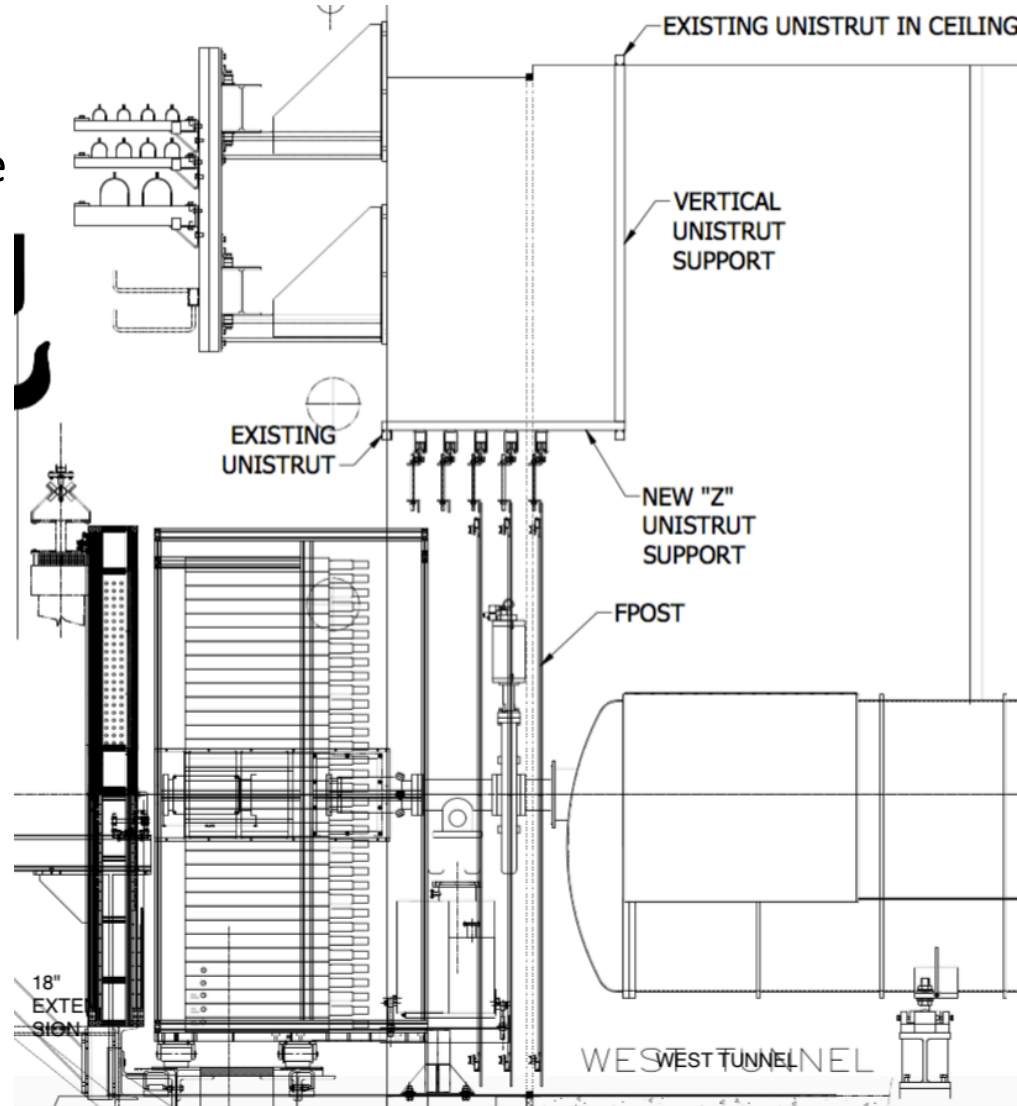


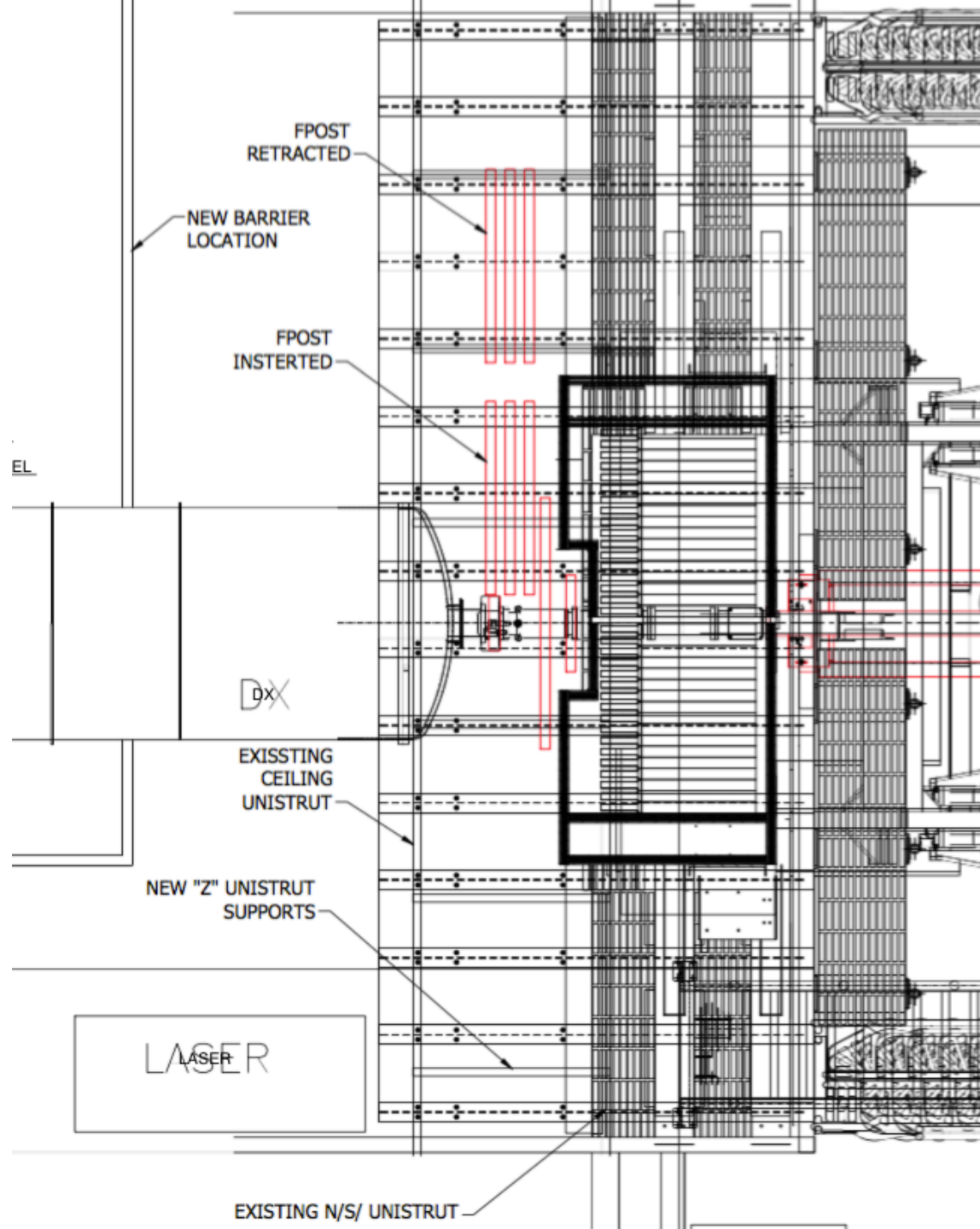
Mechanical Support Design

Each plate will be light enough to be man-handled and hanged under rail like a curtain.

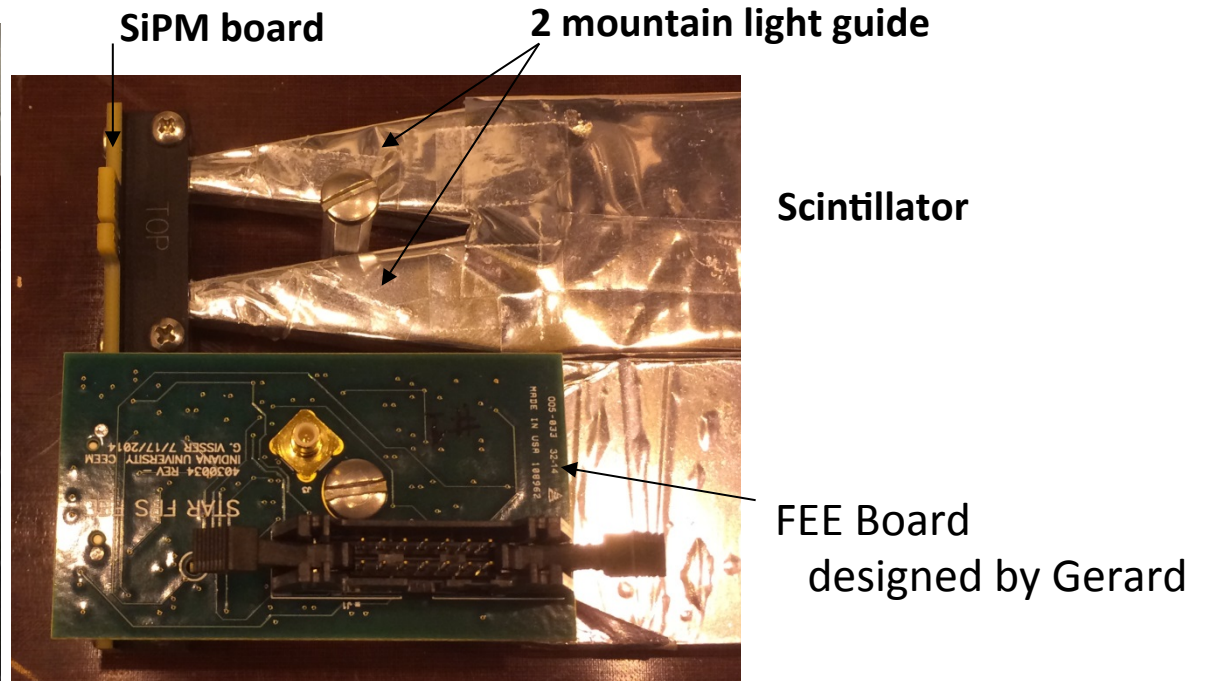
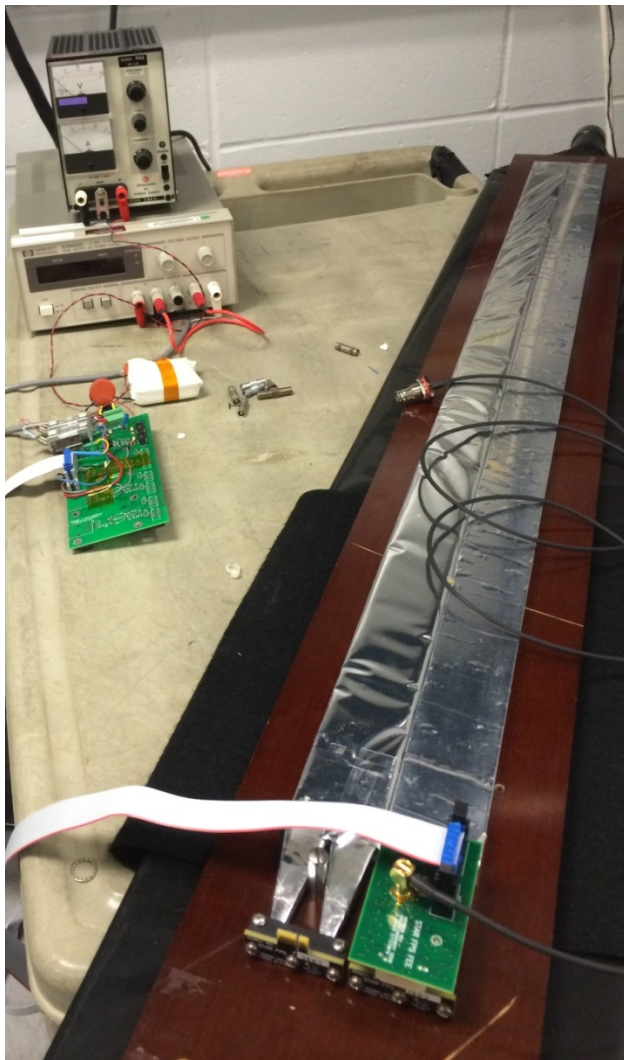
Once in hanged, layers will be bolted together with spacers, and fixed to floor, so that it makes a module and easier to determine the (relative and absolute) positions.

With rails, they moves out to north/south so that FMS back door can be accessed when needed (Top-Y will not move since its trapped in FMS enclosure)





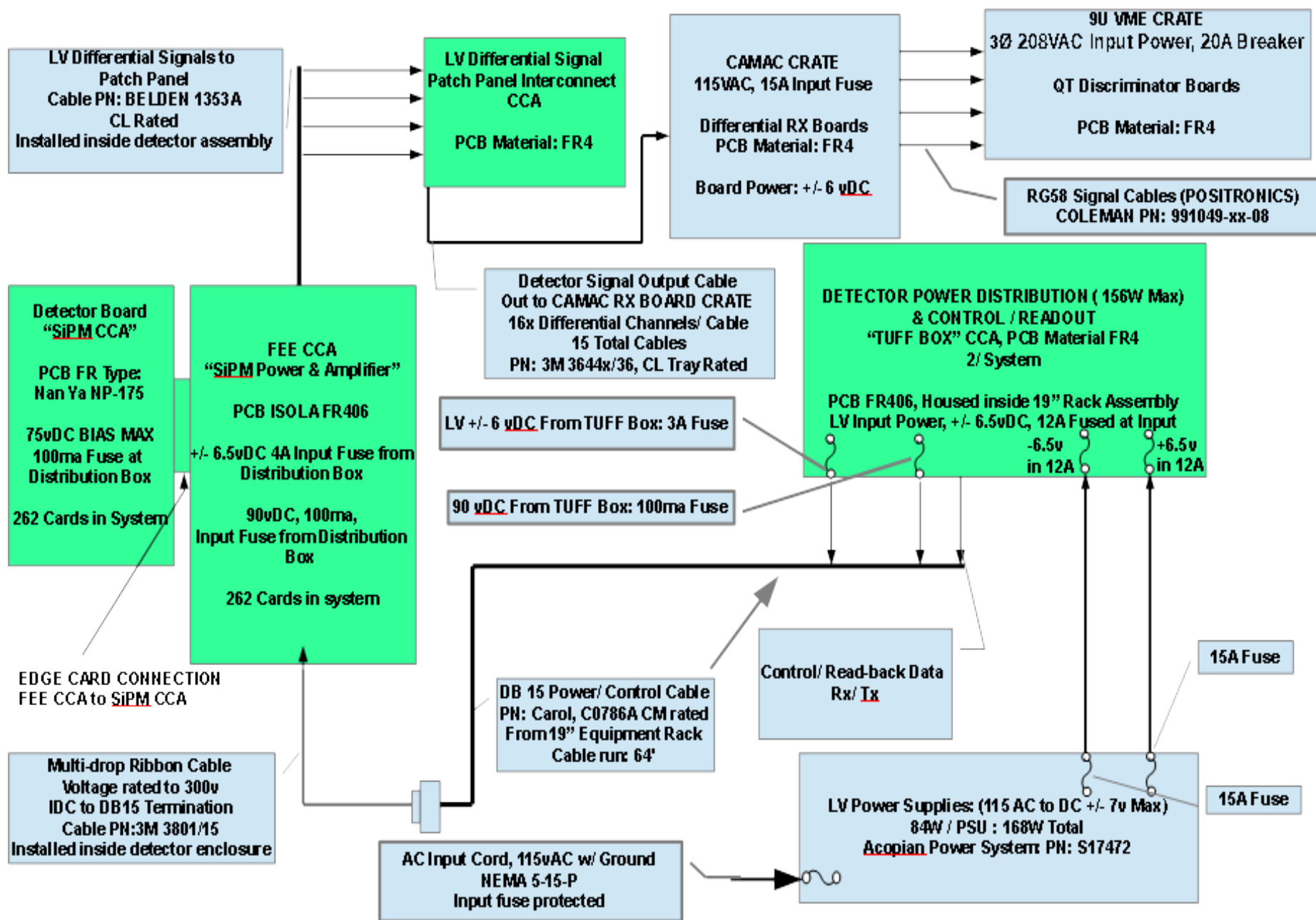
Detector Prototype (FPS)



Eljen EJ200 scintillator with 2 mountain light guide

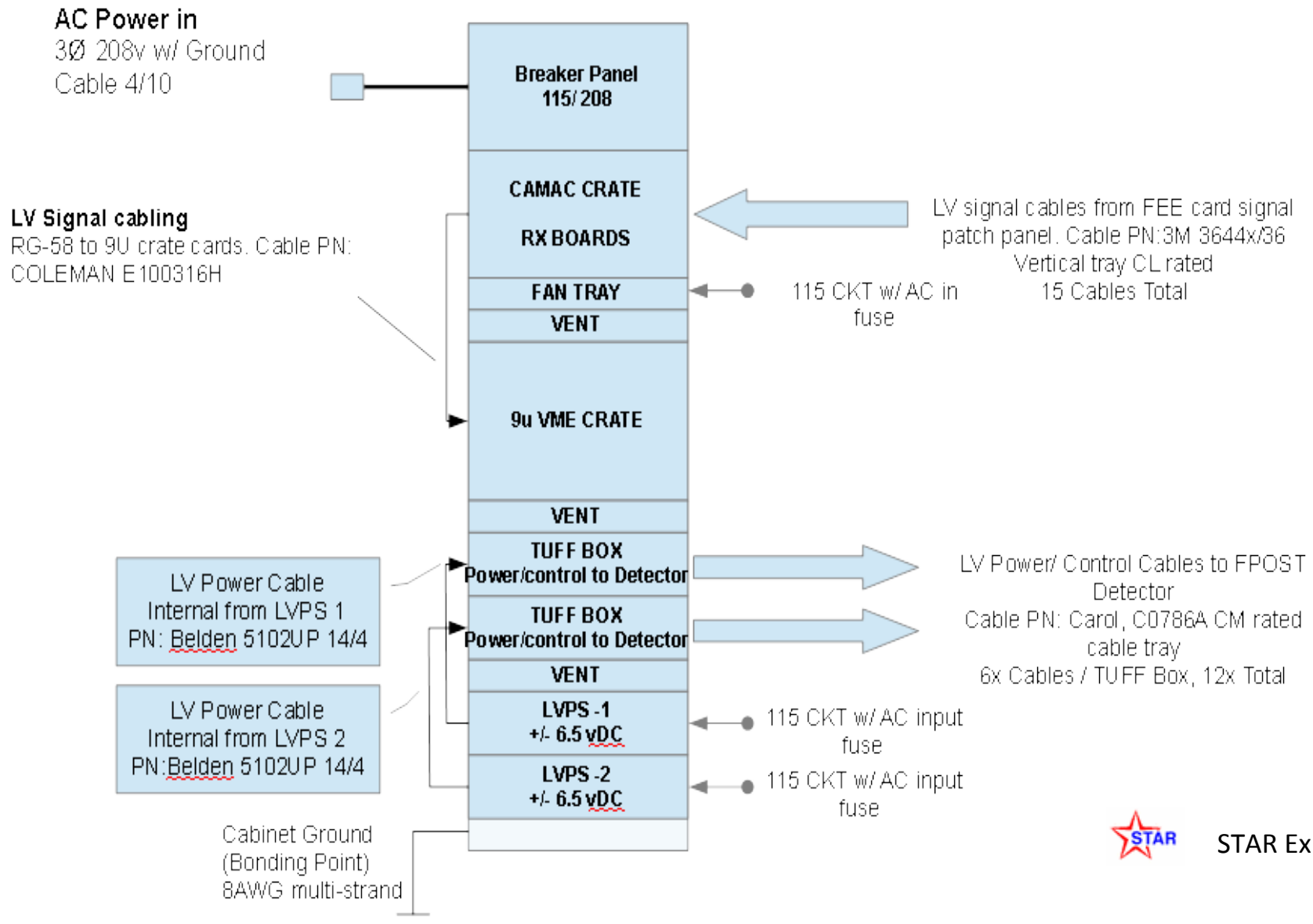


Detector Electronics Overview



19" Equipment Rack

19" Equipment Rack (FPOST)



STAR Experiment



STAR Experiment

System Power

TUFF Box LV distribution:

- Rated LV output power (Total): 80W
- Distribution ports: 6x
- LV output power for each port: +/- 6.5vDC, 3 ADC fuse out to FEE Board

FPOST Detector Power Distribution Ratings

HV Biasing voltage to detector:

- Rated HV power (Total): 90V, 15W
- Distribution ports: 6x
- HV output power for each port: 90vDC, 100ma fuse out to FEE Board

TUFF Box power:

- Acopian Model No.: **S17472, +/- 7vDC Out, 12A**
- Input Power: 115v AC w/ fuse, chassis ground, NEMA

1 box controls 6 branches * 21
~ 126 FEE boards

